

RECTANGULAR RAPID FLASHING BEACON PEDESTRIAN CROSSWALK SYSTEMS

Rectangular Rapid Flashing Beacon (RRFB) Pedestrian Crosswalk Systems provide drivers real-time warning when pedestrians are in or about to enter an approaching crosswalk. This popular, MUTCD-compliant option heightens driver awareness in a variety of applications.

- School zone crossings
- Multilane uncontrolled crossings
- High-speed pedestrian crossings



Rectangular Rapid Flash Beacon: RRFB-XL2

Extra-large beacons provide greater visibility, ideal for high-speed and multi-lane pedestrian & school crossings

- Driver yielding rates of 80-90%
- Large LEDs exceed FHWA standards
- Completely modular
- Various mounting options

RRFBs have produced 80% to 90% driver compliance in yielding to pedestrians at high-risk uncontrolled crossings. This is the highest yielding rate of all devices not featuring a red display, and up to 4 times greater than standard round beacons. RRFBs cost less than other devices with similar vehicular yield rates.

RRFB options include:

- Advance RRFB wirelessly linked to Crossing RRFB
- Self-powered remote bollard-mounted pushbutton
- Passively activated systems



Rectangular Rapid-Flash Beacon (RRFB) LED Crosswalk Warning System

Solar powered.
No AC required.

RRFBs are user-actuated amber LEDs that supplement warning signs at intersections without signals or mid-block crosswalks. Two arrays of alternately flashing LEDs use an irregular flash pattern (similar to emergency flashers on police vehicles), commanding the attention of drivers day and night. The RRFB has been show to provide an 80% reduction to Yield-to-Pedestrian traffic, exceeding that of standard beacons. As a low cost alternative to traffic signals, it's no wonder why RRFB systems are taking the country by storm! The RRFB units install easily onto new or existing signal poles, and TAPCO can provide completed system with poles and hardware. The FHWA requires that RRFB systems are solely for use in pedestrian or school crossings, and must be pedestrian activated (actively or passively).



- TAPCO's RRFB LEDs are the brightest and most durable on the market
- Society of Automotive Engineers (SAE) standard J595 and FHWA compliant LED light intensity
- Modular component construction maintenance quick and easy
- Solar powered, no AC power required (110v optional)
- RRFB LEDs can flash on front and sides, alerting drivers and pedestrians simultaneously
- Compatible with Intelligent Transportation Systems (ITS)
- MUTCD interim approval



2 BlinkerBeam® wirelessly activates the other RRFB unit

3 RRFB LED arrays flash synchronously

1 Pedestrian activates

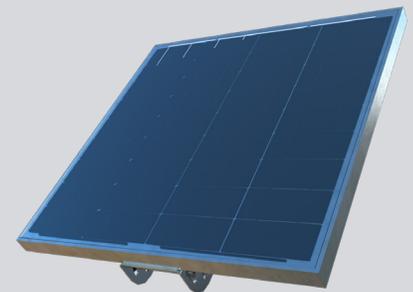
80% reduction to Yield to Pedestrian traffic!*

*"An Analysis of the Efficacy of Rectangular-shaped Rapid-Flash LED Beacons to Increase Yielding to Pedestrians Using Crosswalks on Multilane Roadways in the City of St. Petersburg, FL", Center for Education and Research in Safety

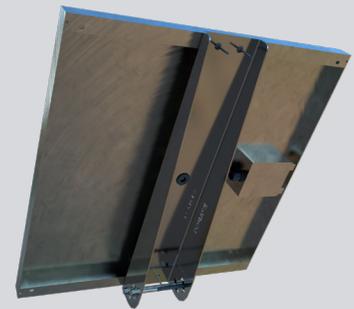
SOLAR PANEL 55W

SPECIFICATIONS

POWER	55W minimum
NOMINAL VOLTAGE	12V
OPEN CIRCUIT VOLTAGE	22.1V
SHORT CIRCUIT CURRENT	3.31A
MAXIMUM POWER VOLTAGE	18.18V
MAXIMUM POWER CURRENT	3.1A
GLASS	Tempered
FRAME	Anodized aluminum
JUNCTION BOX	IP65, UL94-5VA material
WEIGHT	14 pounds
MOUNTING HARDWARE	Various options available
OPERATING TEMPERATURE RANGE	-40°F to 194°F (-40°C to 90°C)
DIMENSIONS	25"W x 26"H x 1.5"D



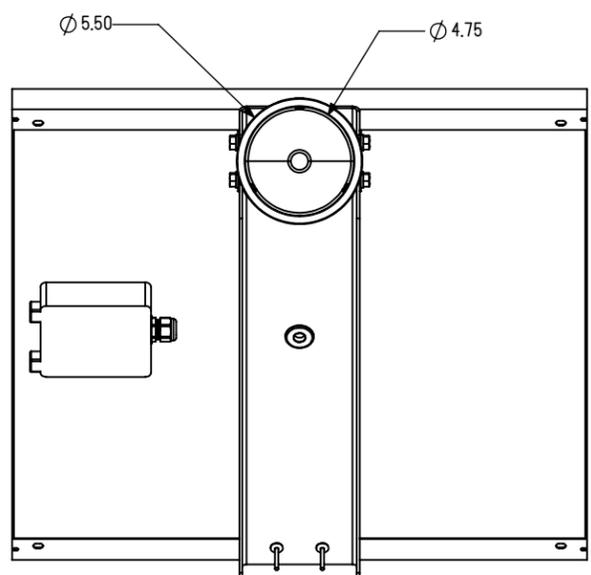
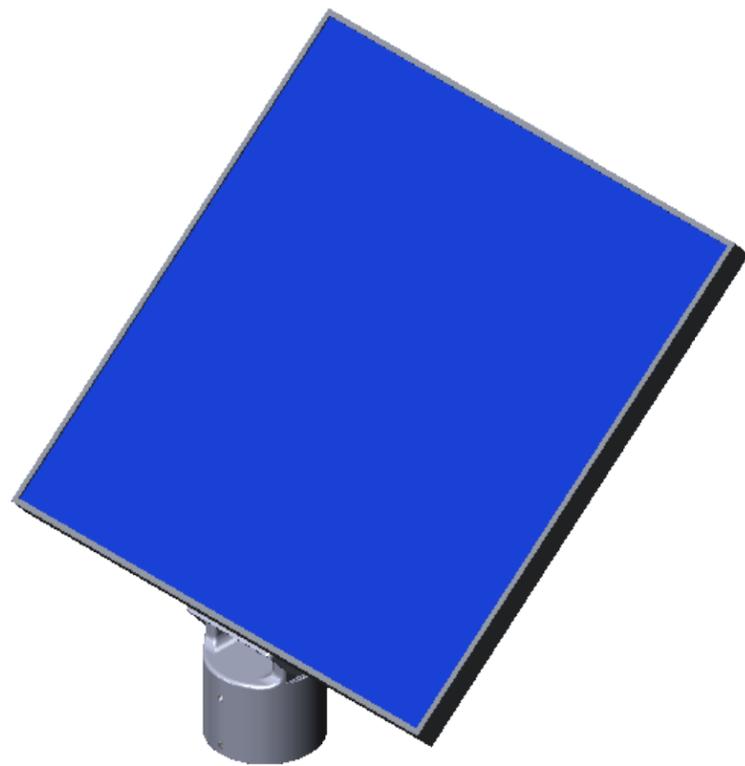
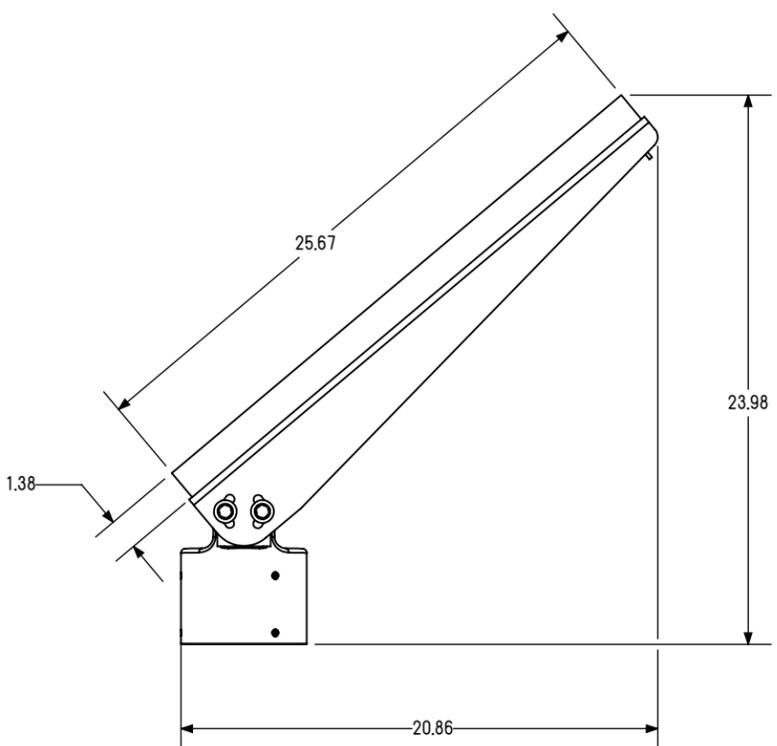
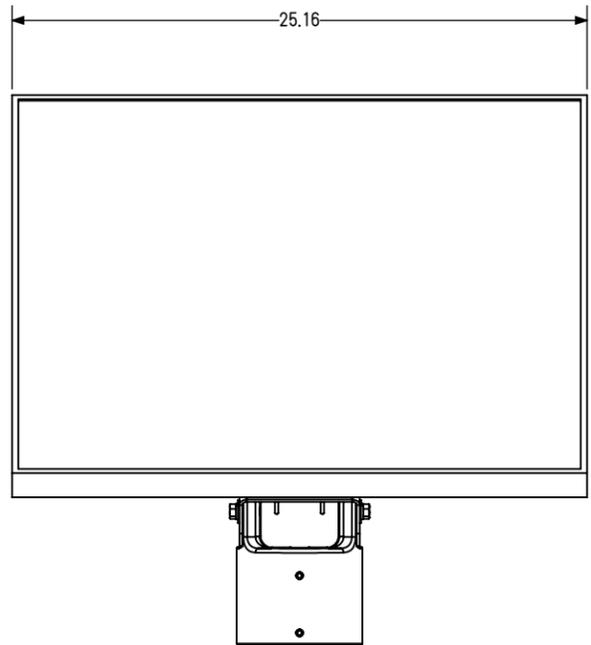
FRONT



BACK

8 7 6 5 4 3 2 1

REVISIONS				
REV.	DESCRIPTION	DATE	PCN #	AUTHOR/APPROVED
A	RELEASED FOR SALES SUBMITTAL	6/7/2016	N/A	A.K./J.P.



D
C
B
A

D
C
B
A

- NOTES:**
1. ORIENT SOLAR PANEL TOWARDS SOUTHERN SKY FOR MAXIMUM SOLAR EXPOSURE
 2. SOLAR PANEL ANGLE CAN BE ADJUSTED TO MEET SPECIFIC LOCATION SOLAR REQUIREMENT



S:\BLINKERSIGNER\TAPCO IN HOUSE ENGINEERING\DRAWINGS\SALES DRAWINGS (2TE-XXX)\NATIVE FORMAT (INVENTOR-SOLIDWORKS)

TOLERANCE UNLESS OTHERWISE SPECIFIED		
HOLE ϕ ± 0.003		
DEC.	MM	INCH
X	± 2.540	± 0.100
XX	± 0.762	± 0.030
XXX	± 0.381	± 0.015
XXXX	± 0.0127	± 0.0005
ANGULAR		$\pm 0.5^\circ$

TITLE:
55W/12V SOLAR PANEL PACKAGE TOP OF POLE MOUNT 4.5 DIA.

DESIGNED BY:		DATE:	
DRAWN BY:	A. KAVANAUGH	DATE:	6/7/2016
CHECKED BY:	J. PATTERSON	DATE:	6/7/2016

SIZE DWG. NO.
B 2TE-743

REV WEIGHT:
A

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TAPCO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TAPCO IS PROHIBITED.

SHEET 1 OF 1

8 7 6 5 4 3 2 1

8

7

6

5

4

3

2

1

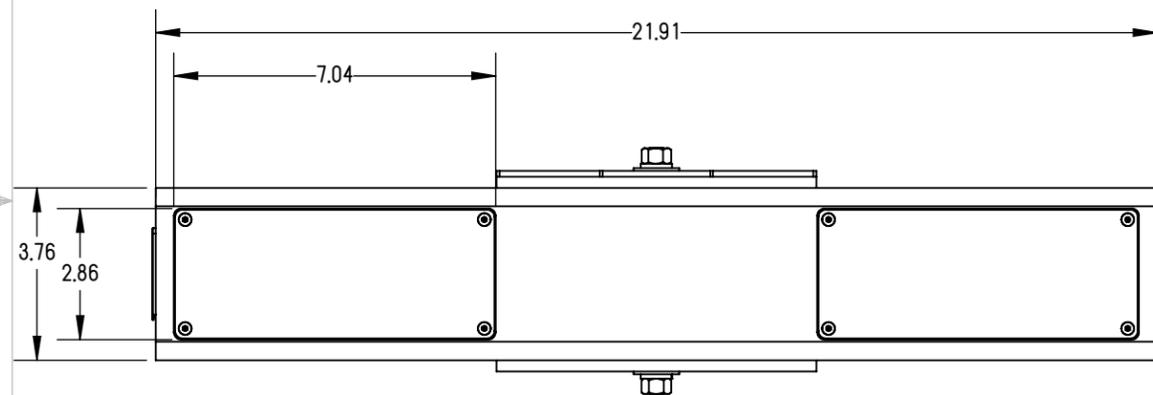
REVISIONS				
REV.	DESCRIPTION	DATE	ECN #	AUTHOR/APPROVED
A	INITIAL RELEASE	5/3/2018	N/A	A.K./J.P.

D



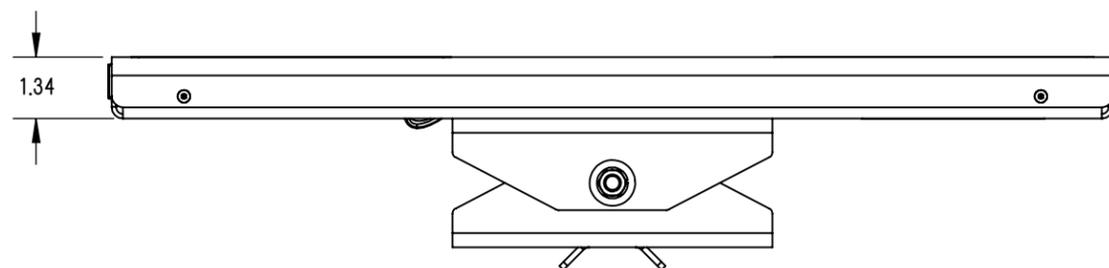
D

C



C

B



A

8

7

6

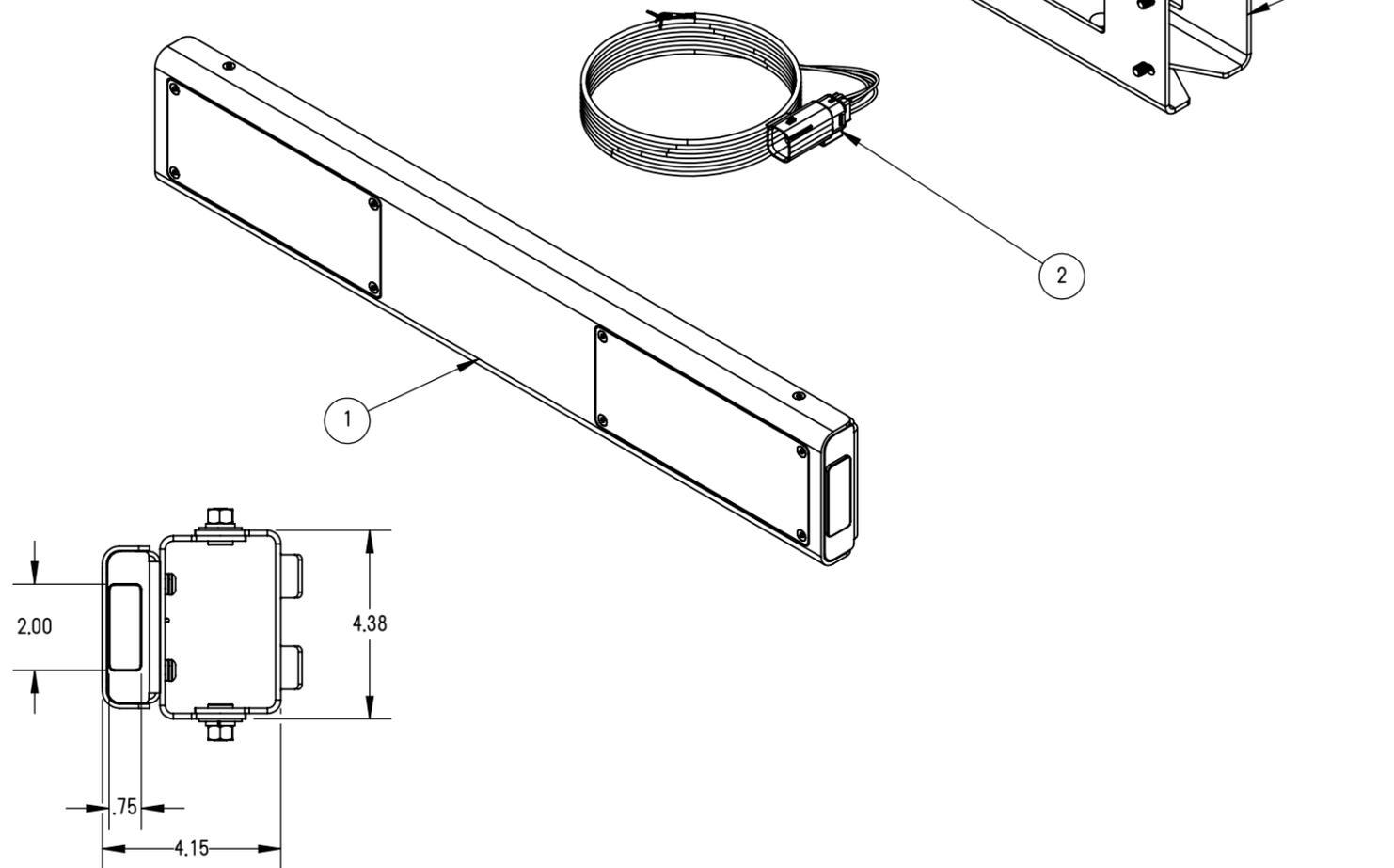
5

4

3

2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	UNITS
3	138079	BRACKET MOUNTING KIT, RRFB, ARTICULATING	1	EA
2	136760	WIRE HARNESS, RRFB, 10' OF 4C W/MOLEX CONNECTOR	1	EA
1	136761	RRFB - AMBER LIGHT BAR, ADD 136760 - WIRE HARNESS, 138079 - MOUNTING KIT	1	EA



MATERIAL		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009
FINISH		REFERENCE:

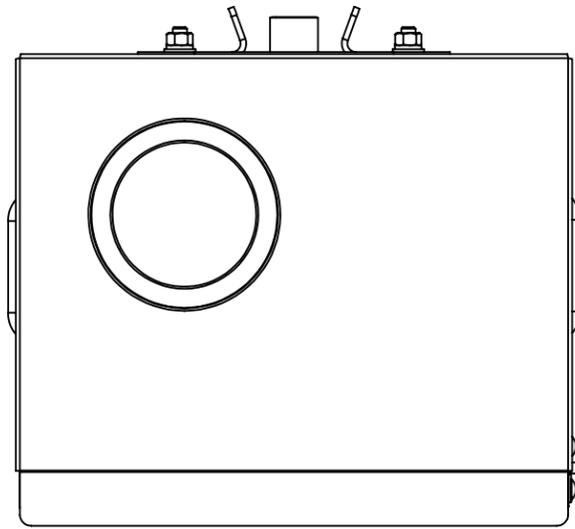
TOLERANCE UNLESS OTHERWISE SPECIFIED		TITLE:		REV		WEIGHT:	
HOLE ϕ	$\pm .003$	RRFB-XL2™ ASSEMBLY WITH UNIVERSAL MOUNTING KIT		A			
DEC.	INCH	DESIGNED BY:	TAPCO	SIZE	DWG. NO.		
X	$\pm .030$	DRAWN BY:	A. KAVANAUGH	B	138089		
XX	$\pm .015$	CHECKED BY:	J. PATTERSON			SCALE: 1:4	
XXX	$\pm .005$					SHEET 1 OF 1	
ANGULAR	$\pm 0.5^\circ$						

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TAPCO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TAPCO IS PROHIBITED.

8 7 6 5 4 3 2 1

D

D



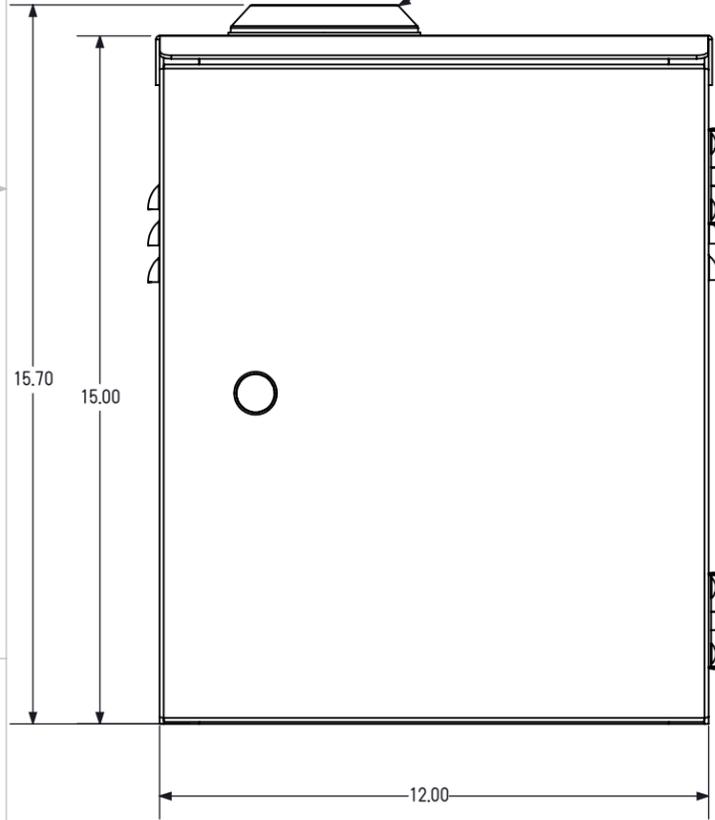
C

C

900MHZ ANTENNA IF SYSTEM IS EQUIPPED WITH BLINKERBEAM RADIO

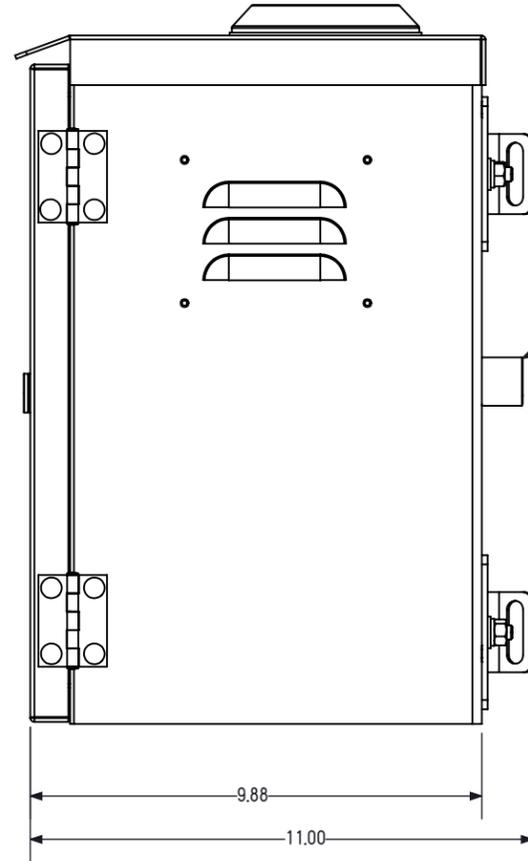
B

B



A

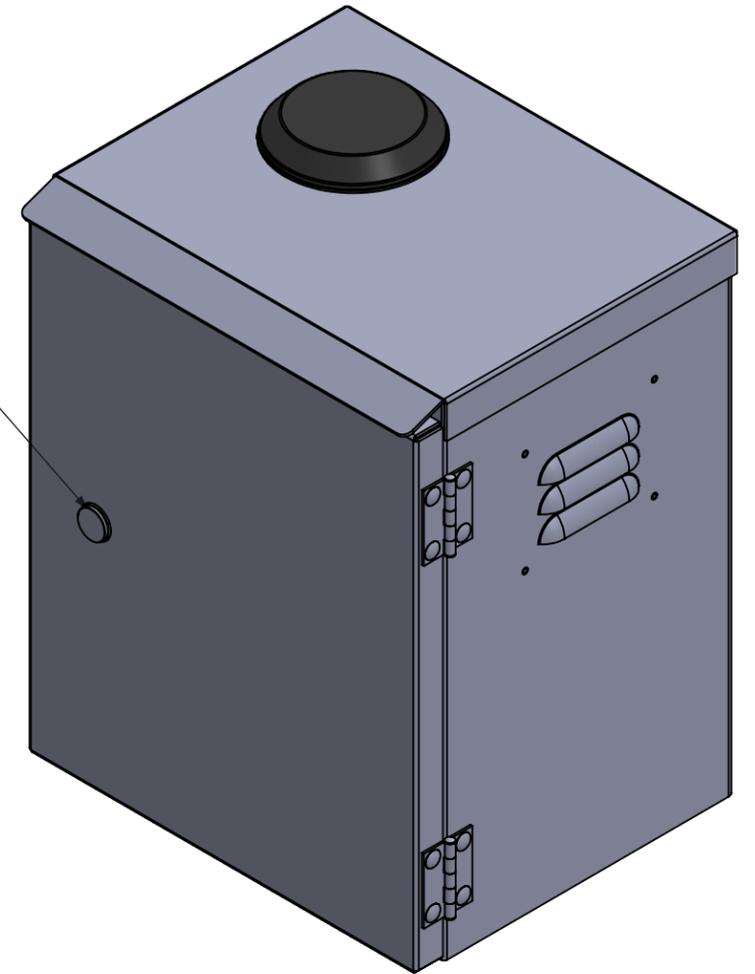
A



CORBIN #2 LOCK

CONDUIT FITTING

BANDING BRACKET FITS 2-3/8" AND UP



S:\BLINKERSIGNER\TAPCO IN HOUSE ENGINEERING\DRAWINGS\SALES DRAWINGS (2TE-XXX)\NATIVE FORMAT (INVENTOR-SOLIDWORKS)

MATERIAL	5052-H32 ALUMINUM .090 THICK	INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009
FINISH	RAW	
REFERENCE:		STORAGE SIZE:

TOLERANCE UNLESS OTHERWISE SPECIFIED		
HOLE ϕ ± 0.003		
DEC.	MM	INCH
X	± 0.762	± 0.100
XX	± 0.381	± 0.030
XXX	± 0.076	± 0.015
XXXX	± 0.0127	± 0.0005
ANGULAR		$\pm 0.5^\circ$

TITLE:
C-RRFB-1BERPBWNNAA:
VENTED ALUMINUM CONTROL CABINET ASSEMBLY

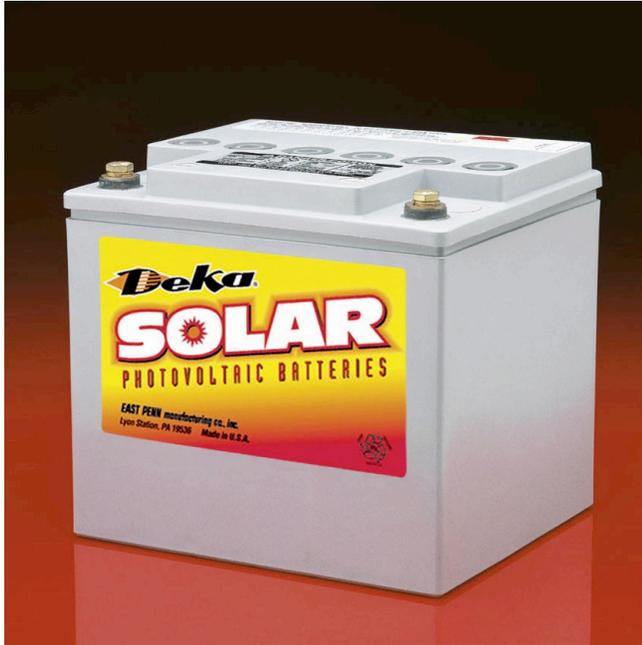
DESIGNED BY:		SIZE	DWG. NO.	REV	WEIGHT:
DRAWN BY:	A. KAVANAUGH	1/27/2015	B	2TE-444	A
CHECKED BY:	M. SMITH	1/27/2015			

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TAPCO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TAPCO IS PROHIBITED.

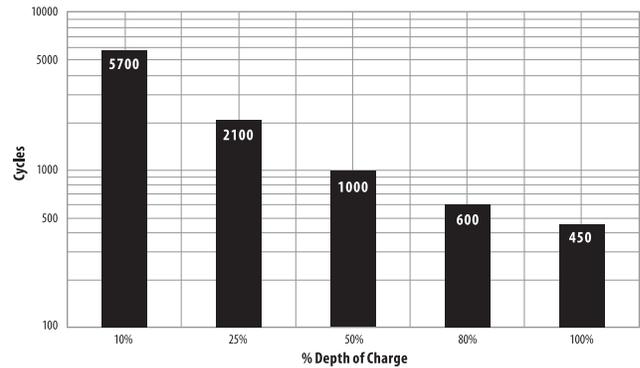
SHEET 6 OF 8

8 7 6 5 4 3 2 1

8G40-DEKA 48Ah Valve-Regulated Gelled-Electrolyte Battery

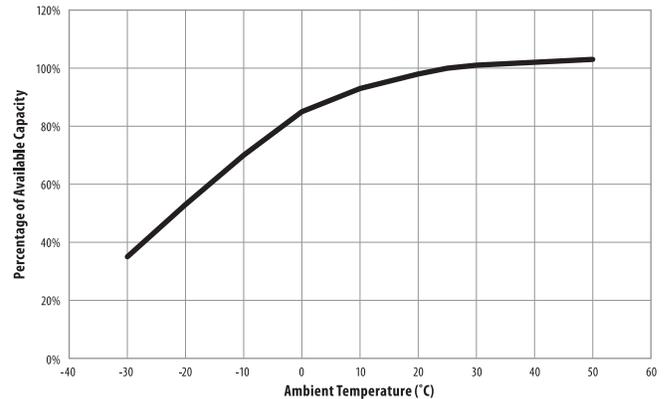


**Gel Cycle Life vs Depth of Discharge at +25°C (77°F)*
Based on BCI 2-hour Capacity**



*Dependent upon proper charging and ambient temperatures.

Capacity vs. Operating Temperature



Capacity vs. Operating Temperatures: Above are the changes in capacity for wider ambient temperature range, giving the available capacity, as a percentage of the rated capacity, at different ambient temperatures. The curves show the behavior of the battery after a number of cycles.

Voltage	12 volts nominal
Capacity at C/100	48 Ah
Capacity at C/100	40 Ah
Plate alloy	Lead calcium
Container/cover	Grey Polypropylene
Electrolyte	Sulfuric acid thixotropic gel
Short circuit current	1331
Posts	Forged terminals and bushings
Operating temperature range	-76°F (-60°C) – 140°F (60°C)
Vent	Self sealing
Terminal	Insert with 1/4"-20 round hole
Weight	32 lb. (14.5 kg)
Dimensions	7.76"L x 6.62"W x 6.87"H 197mmL x 168mmW x 174mmH
Ampere Hour Capacity 77°F (25°C)	
10 HR = 37.0Ah	20 HR = 40.0 Ah 24 HR = 40.8 Ah 100 HR = 48.0 Ah
Peak Rating** [1.75 vpc @ 77°F (25°C)]	
5 HR = 36.0 AH	20 HR = 42.1 AH 100 HR = 48.7 AH
Non - Spillable	as defined by Department of Transportation, International Commercial Airline Organization and International Airline Transport Association definitions

Photovoltaic Charging Parameters

Bulk charge	Max current (amps)	30% of 20 Hr rate
Absorption (regulation) charge	Constant Voltage	2.35-2.43 vpc
Float charge	Constant Voltage	2.25 vpc ± 0.01
Equalize charge	Constant Voltage	2.40-2.43 vpc
Temperature coefficient	0.003 v/°C	

Cut-off parameters per charge & equalize intervals are application specific and will vary dependent upon site specific characteristics such as temperature, days of autonomy, array to load ratio, etc.

Distributed by



5100 West Brown Deer Road
Brown Deer, WI 53208

1-800-236-0112
www.tapconet.com



BLINKERBEAM® WIRELESS RADIO

SPECIFICATIONS

POWER INPUT	5VDC
INPUT	1 digital input, micro USB
OUTPUTS	2 digital output lines, host serial lines for OTA serial
PROGRAMMABILITY	Locally using USB port or front-mounted joystick
LCD DISPLAY	4 lines at 21 characters per line
OPERATION POWER MODES	3 levels available, 0.25, 0.5 or 1 watt
CONNECTIVITY	Activates warning LEDs concurrently
FREQUENCY	License free 900 MHz Frequency Hopping Spread Spectrum with 10 different RF patterns to prevent interference between collocated radio systems
RANGE	900 feet or longer with optional antenna
SERIAL DATA RATE	19,200Baud
STATUS LEDS	Red, green, yellow, amber
FCC ID	2ANWN-02ANWN
AVAILABLE ANTENNAS	6dBi Omni - Fiberglass 3dBi Omni Whip - RPSMA 3dBi Omni Low Profile 10.64dBi Yagi
OPERATING TEMPERATURE	-40°F to 176°F (-40°C to 80°C); less than 90% RH
DIMENSIONS	3.2"W x 3.7"H x 2.5"D

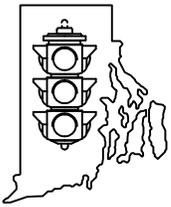


XAV2-LED PUSH BUTTON

SPECIFICATIONS

POWER INPUT	10 to 24VDC (from control circuit)
PUSH BUTTON	ADA compliant with field adjustable directional arrow. Optional locate tone available.
ACTIVATION CONFIRMATION	Yellow LEDs and voice confirmation activated when push button is pressed.
SPEAKER	Weather resistant; 10 watt audio amplifier Maximum volume: 100 dB at 1 meter
INSTRUCTIONAL SIGN	9" x 12"; retroreflective sheeting with tamper-resistant mounting screws. Larger signs available upon request.
OPERATING FORCE	3 pounds maximum
IDLE CURRENT DRAW	~1.2mA
PEAK CURRENT DRAW	~500mA with voice message at maximum
LED CURRENT	22mA typical
ENCLOSURE	Cast aluminum housing with yellow powder coat finish, watertight O-ring seals. Black powder coat finish available.
INSTALLATION	2 holes on 6.0" centers, tapped ¼-20 plus ½" or larger hole for wire access
PUSH BUTTON OUTPUT	Driven low to ground when the push button is pressed
MICROPHONE INPUT	0 to 1.5V feedback based upon ambient noise
OPERATING TEMPERATURE RANGE	-30°F to 140°F (-34°C to 60°C)
DIMENSIONS	5.50"W x 14.10"L x 2.60"H





Ocean State Signal Co.

27 Thurber Blvd • Smithfield, RI 02917
(401) 231-6780 Fax: (401) 231-4390

SPECIFICATION SHEET

TITLE: MUTCD STATIC TRAFFIC SIGN

PART NO.:
SEE BELOW



W11-1, .080 DG3 FYG,
Bike Crossing (Symbol) Fed Spec
Fluorescent Yellow-Green Sign



W11-2, .080 DG3 FYG,
Pedestrian Crossing (Symbol) Fed Spec
Fluorescent Yellow-Green Sign



W11-15, .080 DG3 FYG,
Mixed Use Crossing (Symbol) Fed Spec
Fluorescent Yellow-Green Sign



W16-7pL



W16-7pR

W16-7PL, 24"x12" DG3 FYG,
Down Diagonal Arrow Fed Spec
Fluorescent Yellow-Green Sign



S1-1, .080 DG3 FYG,
School Crossing (Symbol) Fed Spec
Fluorescent Yellow-Green Sign



W11-15P, 24"x12" DG3 FYG,
Trail Crossing Fed Spec
Fluorescent Yellow-Green Sign



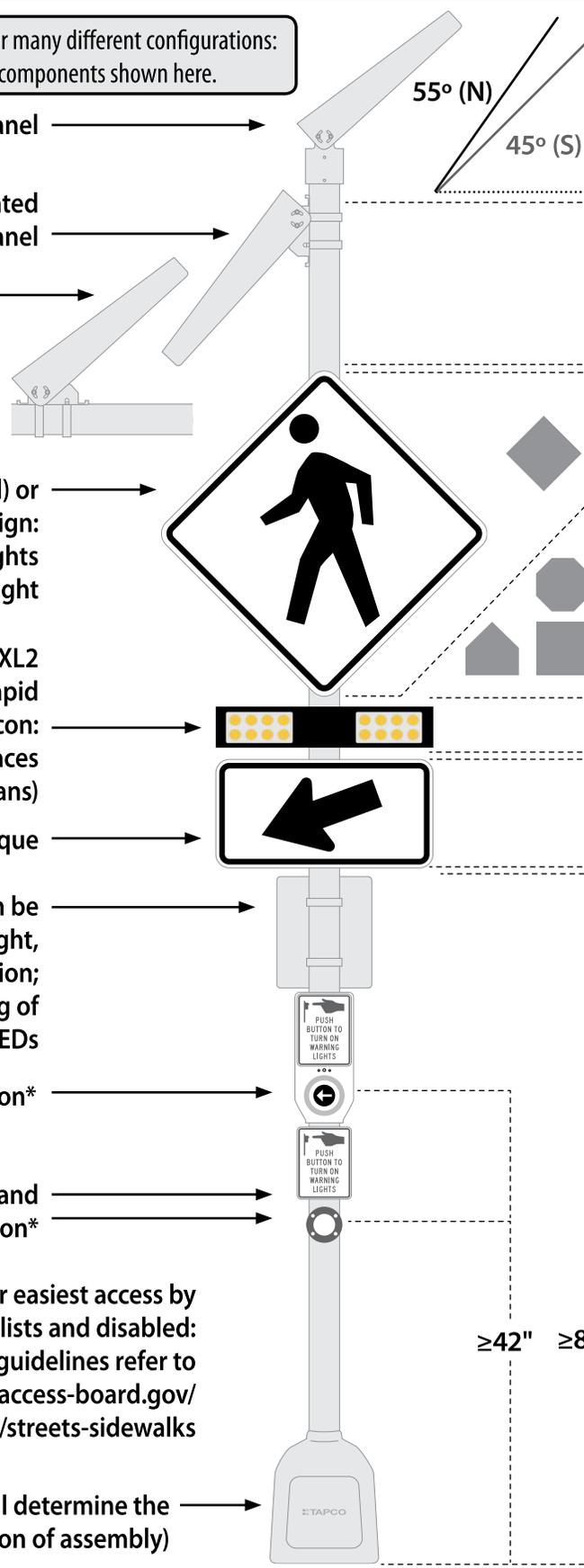
W16-9P, 24"x12" DG3 FYG,
Ahead Fed Spec
Fluorescent Yellow-Green Sign



TYPICAL RRFB-XL2™ CONFIGURATIONS

Note: Components are shown for many different configurations: your system will not include all components shown here.

- Pole-top Solar Panel
- Side of Pole Mounted Solar Panel
- Mast Arm-Mounted Solar Panel: Use if mast arm would block sunlight to a pole-mounted panel
- Pedestrian (diamond) or School Xing (pentagon) Sign: see actual heights of diamond signs at right
- RRFB-XL2 Rectangular Rapid Flashing Beacon: (Pedestrian LED Array faces crossing pedestrians)
- Arrow Plaque
- Control Cabinet: Can be mounted at any height, at installer's discretion; must not block viewing of signs or RRFB-XL2 LEDs
- XAV2-LED Pushbutton*
- (OR)
- Crosswalk Sign* and Bulldog Pushbutton*
- *Mount Pushbutton for easiest access by pedestrians, bicyclists and disabled: For more ADA guidelines refer to <http://www.access-board.gov/guidelines-and-standards/streets-sidewalks>
- Pole Base (access door will determine the orientation of assembly)



Solar Panel Angle: Tilt at 55° (northern U.S. latitudes) to 45° (southern latitudes), and rotate assembly so the collector panel will face solar south

PRIOR TO ASSEMBLY, verify the height of your solar assembly when properly tilted & rotated: panel must not obscure sign

Diamond sign Sizes:
30" dimension = 41" height
36" dimension = 49" height
48" dimension = 66" height

For Octagon, Pentagon and Rectangle† signs, the sign's height equals its stated dimension:
†Rectangle = W x H

5" minimum clearance for RRFB-XL2 housing

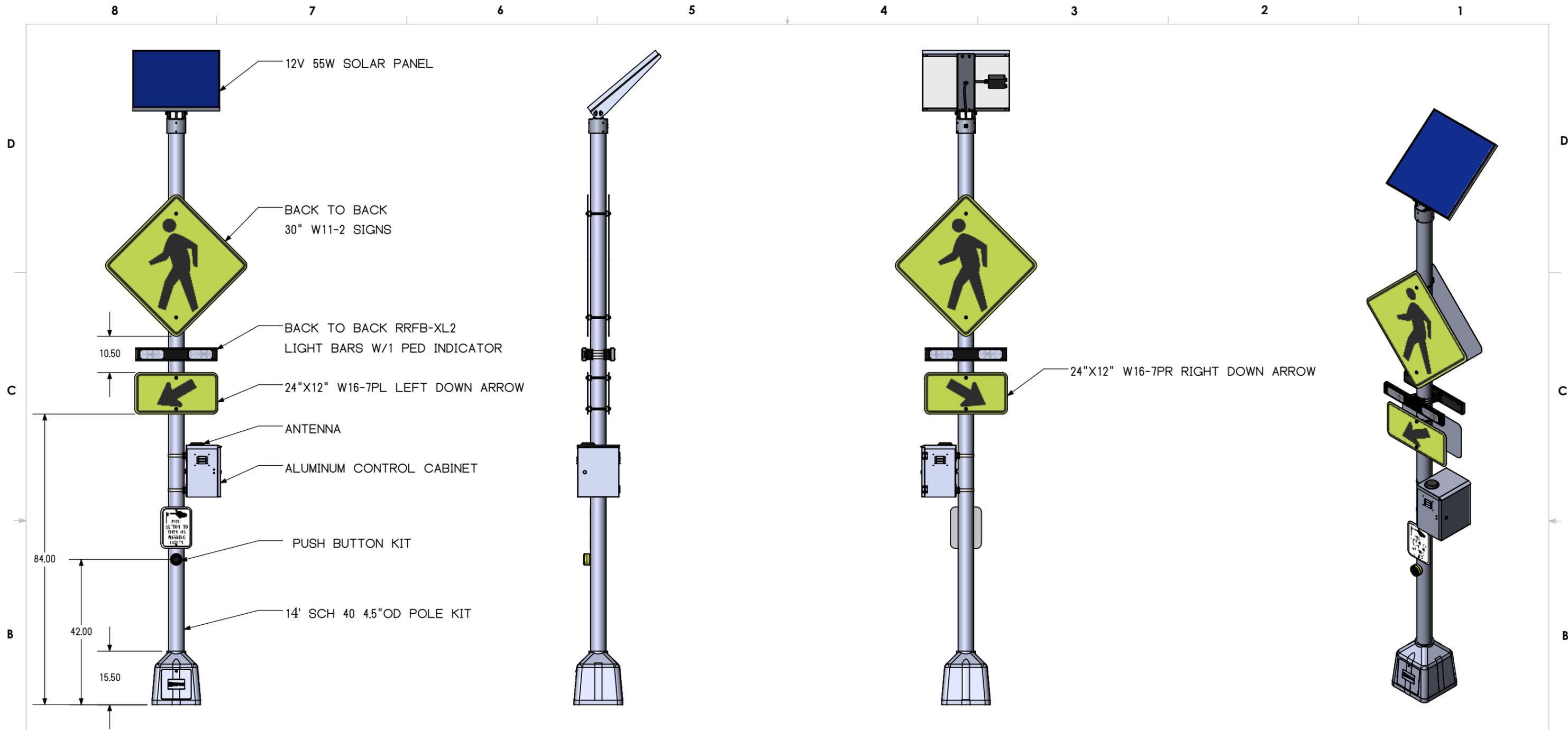
Typical Plaque Heights: 12", 18"

Note: Components for many different configurations are illustrated here: your system will include only some of the components shown.

To determine overall height of pole/base required, add the heights of your components, plus the spaces required below* and between the components.

For components that you will mount back-to-back, use only the height of the tallest component.

≥42" ≥84" *2009 FHWA MUTCD 2A.18
The minimum height, measured vertically from the bottom of the sign...where parking or pedestrian movements occur... shall be 7 feet (84").



- NOTES:**
1. ORIENT SOLAR PANEL TOWARDS SOUTHERN SKY FOR MAXIMUM SOLAR EXPOSURE
 2. CONTROL CABINET HEIGHT MAY VARY.
 3. SNAP LOCKS ARE PROVIDED, STANDARD 3/4" S/S BANDING IS RECOMMENDED
 4. J-BOLTS NOT SHOWN



S:\BLINKERSIGNER\TAPCO IN HOUSE ENGINEERING\DRAWINGS\SALES DRAWINGS (2TE-XXX)\NATIVE FORMAT (INVENTOR-SOLIDWORKS)

MATERIAL	VARIED	INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009
FINISH	VARIED	

TOLERANCE UNLESS OTHERWISE SPECIFIED	TITLE:	
HOLE ϕ $\pm .003$	DOUBLE SIDED RRFB-XL2 SLR-55W SOLAR POLE ARRANGEMENT	
DEC. MM INCH	DESIGNED BY:	SIZE DWG. NO.
X ± 2.540 ± 0.100	DRAWN BY: A. KAVANAUGH 6/9/2015	B 2TE-550
XX ± 0.762 ± 0.030	CHECKED BY:	REV WEIGHT:
XXX ± 0.381 ± 0.015		A
XXXX ± 0.0127 ± 0.0005		SCALE: 1:28
ANGULAR $\pm 0.5^\circ$		SHEET 1 OF 1

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TAPCO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TAPCO IS PROHIBITED.

Custom Voice Message Details

(Fill out one form per intersection)

Voice on Location and Walk Message(s) & Braille. Please give phonetic pronunciation on difficult street names so that we record them properly. Please note that unless Street, Drive, Avenue, etc... are necessary for intersection identification, it is recommended to leave them off.

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L)

Street Name in BRAILLE

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L)

Street Name in BRAILLE

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L)

Street Name in BRAILLE

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L)

Street Name in BRAILLE

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L)

Street Name in BRAILLE

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L) Street Name in BRAILLE

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L) Street Name in BRAILLE

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L) Street Name in BRAILLE

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L) Street Name in BRAILLE

Qty

VOL: **Wait to Cross** at **Wait**
(Street Being Crossed) (Intersecting Street)

Walk Message: **Walk sign is on to cross**
(Street Being Crossed) (Street Being Crossed)

Arrow Direction (R/L) Street Name in BRAILLE